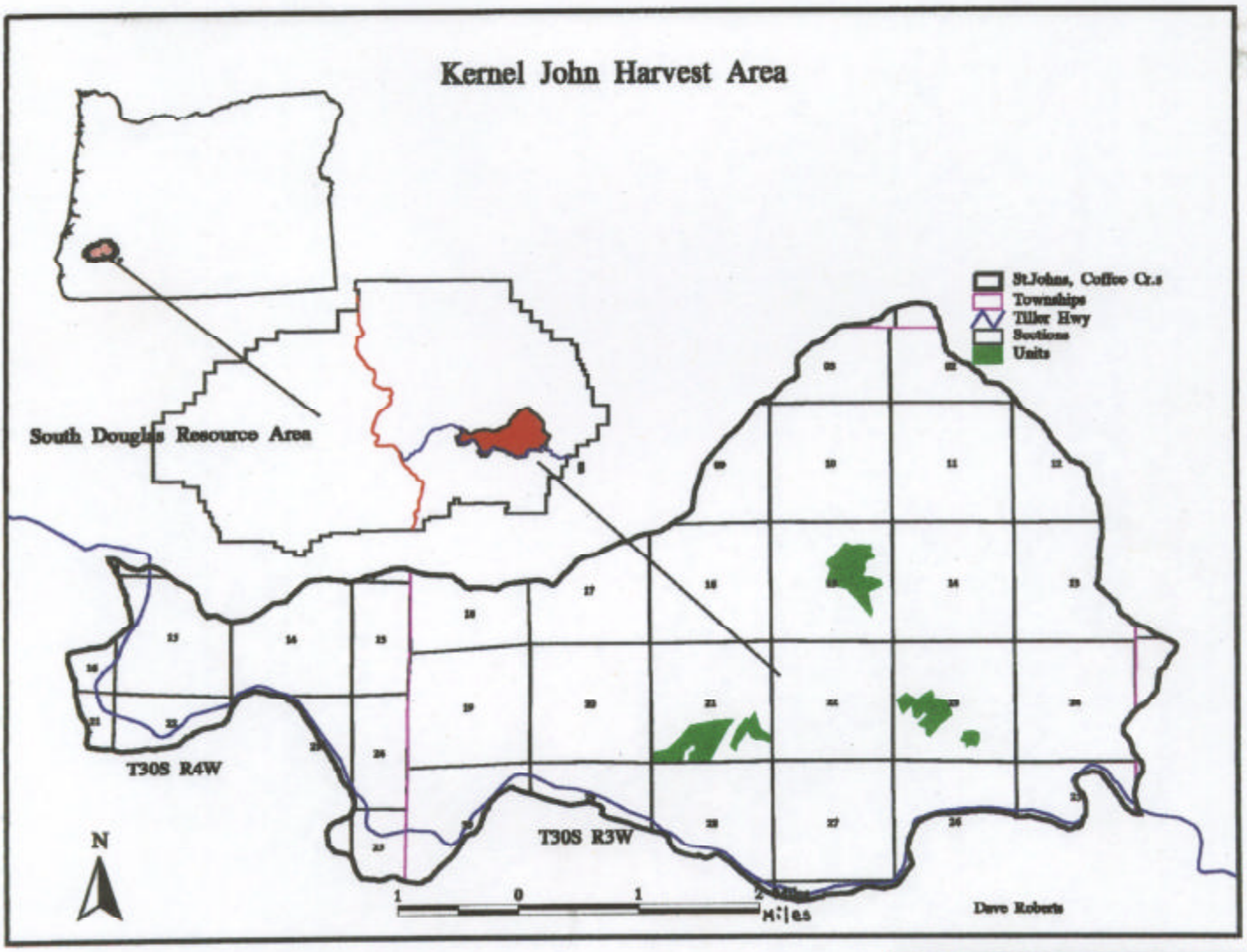
Kernel John Timber Sale

Environmental Assessment
#OR105-96-08

South Douglas Resource Area
Roseburg District BLM

T30S, R03W Sections 15, 21, 23



June 6, 1996

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Chapter 1
PURPOSE AND NEED FOR ACTION

The South Douglas Resource Area of the Roseburg District of the Bureau of Land Management (BLM), proposes a timber harvest in T30S R3W Sections 15, 21 & 23 (reference vicinity map, front cover). This area is covered by the John Days Coffee Creek Watershed Analysis (JDCWA). The watersheds impacted by the proposed project are the St. John and Coffee Creek watersheds which consist of the John Days, St. John and Corn Creek sub-watersheds. The proposed project area is located within a Tier 1 watershed in the General Forest Management Area (GFMA) of the Matrix land allocation as described in the April 13, 1994, Standards and Guidelines (S & G) for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl and Record of Decision (ROD). The S & G state that most timber harvest and other silvicultural activities would be conducted in that portion of the Matrix with suitable forest lands, according to the standards and guidelines. Scheduled timber harvest which contributes to the allowable sale quantity (ASQ), occurs in the Matrix lands. The purpose of this sale is to meet the ASQ for the resource area. The objectives in Matrix are stated in the Roseburg District Record of Decision and Resource Management Plan (ROD/RMP, p. 33).

I. Decisions To Be Made

A. Which areas should be harvested to best meet the harvest objective of 3-5 MMBF?

B. What site specific project design features would be necessary to meet ROD/RMP requirements and meet the director's overall objective of maintaining "Healthy Ecosystems"?

C. What roads could be fully decommissioned to facilitate management direction to reduce existing road mileage within key watersheds?

II. Scope of Analysis

The areas proposed for regeneration harvest have been selected following a screening process which looked at minimizing the impact on active northern spotted owl (NSO) sites and maintaining older forest habitat connectivity. The proposed sale area was selected with the following considerations in mind:

1. proximity to spotted owl core areas and the extent of their respective home range
2. amount of suitable NSO habitat remaining within the 1.2 mile provincial home

range (Cascade)
3. date of last known owl site occupancy and historical nesting success
4. aggregation of available stands into logical sale areas.

The proposed harvest would meet the requirement to retain 15% of federal lands as late-successional forest (ROD/RMP, p. 34). Within the two watersheds (St. John and Coffee Creek), Riparian Reserves alone comprise 18.7% and 28.5%, respectively, late-successional forest. There would be no harvest in reserves for this proposal.

There are no *Survey Strategy 1* (manage known sites) sites for *Special Attention Species* (ROD/RMP, Appendix H, Table H-1) in the project area. Protocols for monitoring are being designed and are to be implemented in 1997 and later for all ground disturbing activities.

There are no concerns from a Recreation nor a Visual Resource Management (VRM) standpoint.

The Interdisciplinary Team (IDT) members brought forward concerns related to resources that had the potential of being affected by the proposed action. One issue was determined and resulted in the development of one alternative other than the original proposal. Other concerns were mitigated through project design and application of Best Management Practices (BMP) listed in the ROD/RMP (Appendix D). The Critical Elements of the Human Environment were considered and are addressed in Appendix B.

III. Permits, Licenses, Related Laws and Policies

1. The U.S. Fish and Wildlife Service (USFWS) requires consultation for potential effects to threatened and endangered species in the project area, specifically the northern spotted owl. The Biological Opinion (dated March 25, 1996) based on this consultation, has been received.

2. The National Marine Fisheries (NMFS) would be informally contacted concerning potential effects to the proposed, endangered Umpqua River cutthroat and threatened coastal coho salmon. If the species are listed, consultation would be required for "may affect" actions.

3. The State Historic Preservation Office (SHPO) has been contacted for concurrence of archaeological evaluation for the project as it relates to the National Historic Preservation Act.

4. The contractor would be required to comply with State and Federal laws and regulations concerning storage, handling, use, and disposal of industrial chemicals and other hazardous substances. This would include that all chemicals (including petroleum) be stored in durable closed containers and when necessary provide secondary containment.

5. To meet the requirement of the Pacific Yew Final Environmental Impact Statement and Record of Decision (Sept. 1993), all Pacific yew would be tallied as the sale is cruised and all yew would be reserved from harvest. There has been no demand for the Pacific yew for taxol production on federal lands since 1993. Consequently, protecting yew from timber harvest and prescribed fire would not be required.

6. The project area is not within the range of Port Orford cedar.

7. The proposed units do not fall within 1/4 mile of lands zoned for one to five acre lots as identified in the ROD/RMP (p. 54 & map 6), thus no mitigation or restrictions are required regarding the Rural Urban Interface.

Chapter 2
DISCUSSION OF ALTERNATIVES

I. Process Used to Formulate Alternatives

The IDT developed two action alternatives which reflect a range of potential impacts. The following issue statement encompasses those impacts; road building and/or downhill yarding have the potential to remove land from timber production, reduce site productivity and increase sediment, which in turn, may affect water quality and aquatic/riparian habitat and species. There was one alternative developed beyond the two action alternatives, which was "considered and eliminated". Mitigation has been determined and would be incorporated into layout and implementation of the project. The no action alternative will also be analyzed in this EA.

II. Alternative Considered but Eliminated from Detailed Analysis

The original proposal was to include development of the Stouts Creek Community Rock Quarry in T31S R3W Section 3. The quarry would provide a reliable source of excellent quality rock for many years. Development of the quarry would meet an objective of the ROD/RMP and emphasize the use of a long term regional quarry. The pit is within one quarter mile of two owl sites and would require additional consultation with the United States Fish and Wildlife Service (USFWS). The analysis of the quarry could take additional time not accounted for in the original timeframe for this timber sale, and consequently, will be analyzed in a future environmental analysis.

III. Project Design Features

The following features would be incorporated into layout/implementation of the chosen alternative:

A. The project would be designed to meet the Aquatic Conservation Strategy (ACS) objectives (ROD/RMP, p. 19-20) in Riparian Reserves and Matrix land allocations.

RIPARIAN RESERVES

1. All perennial and intermittent streams, including associated unstable or potentially unstable areas within the harvest units, would be included in Riparian Reserves. The Reserves would have a width of approximately 160 feet, slope distance, (based on an average site potential tree height), on each side of nonfish-bearing streams that have a definable channel and show evidence of annual scour and deposition, and 320 feet for potentially fish-bearing, and fish-bearing streams.

MATRIX

2. Retain 6-8 green conifers/acre greater than 20 inches, diameter breast height (DBH), irregularly scattered and/or grouped.

3. Reserve at least 1.2 existing snags per acre as required in the Proposed Resource Management Plan/ Environmental Impact Statement (PRMP/EIS, 1994, Vol. I, 1994, p. 4-43).

4. Retain coarse woody debris (minimum of 120 linear feet/acre, greater than or equal to 16 inches (large end) and 16 feet in length (Instruction Memorandum (IM-95-028, 11/94)).

5. Road construction & renovation would meet standards and guidelines as stated in the S & G (p. C-32 & 33) and the BMP listed in the ROD/RMP, (Appendix D).

6. If bats are found, the species would be identified and determination would be made as to the reason the site is being used by the bats. As an interim measure, timber harvest would be prohibited within 250' of sites containing bats (S & G, C-43).

B. The Reasonable and Prudent Measures outlined in the Biological Opinion (p. 19) and addendum of May 6, 1996, from the USFWS would be implemented.

C. All prescribed fire treatments would be planned in order to minimize: intensity of burns, consumption of litter and coarse woody debris, damage to residual live trees and snags and impacts to air quality (PRMP/EIS, Vol II, Appendix L, p. 63).

IV. Description of Alternatives

Alternative 1-No Action

Harvest would not occur in this location at this time. Harvest would occur in another location within the Matrix lands in order to meet harvest obligations. At this time, no

roads would be renovated, constructed or decommissioned, culverts would not be replaced, and the Lavadoure Creek Community Pit would not be reclaimed.

Alternative 2

This alternative consists of six units located in Sections 15, 21, and 23 of T30S R3W (reference maps, Appendix A-1 thru A-3). Approximately 4.4 million board feet (MMBF) would be harvested from 164 acres. There would be approximately 1.0 mile of unsurfaced, temporary road constructed which would be fully decommissioned after use. Full decommissioning would include tilling with a winged subsoiler and revegetating bare soil areas. No roads would be constructed in Riparian Reserves. There would be approximately 8 miles of road renovation. As part of the renovation, the existing culverts on St. John Creek along the 30-3-34.1 road in Section 22 would be replaced with arch culverts (reference map in Appendix A-4). Culvert design would provide for passage of juvenile and adult fish. Existing roads in the vicinity of the sale area will be evaluated by the IDT for the potential to apply "road closure methods" in order to address wildlife and water quality concerns (reference report by Todd Kuck re: "Possible Roads to Decommission", EA file). Table 1 (p. 6) summarizes the alternative.

The remaining rock in the Lavadoure Creek Community Pit could be utilized for road surfacing, and the pit would be reclaimed. Reclamation of the quarry area would consist of converting the quarry floor into a shallow wildlife pond. The pond would act as a sediment trap until the quarry area was revegetated. Approximately .15 miles of road would be decommissioned by removing three culverts, and the fill material at the stream crossing. The road fill slope would not be disturbed in order to protect the existing vegetation except at the stream crossing. (Reference the report by E. Heenan, EA file).

Unit 1 (John Days sub-watershed) would be cable yarded below the road, and utilize a ground based harvest system with designated skid roads above the 30-3-28.0 road. Units 2 (John Days sub-watershed) and 3 (St. John Creek sub-watershed) would be cable yarded. Unit 4 would be cable yarded below the road, and utilize a ground based harvest system with designated skid roads above the 30-3-23.1 road. Unit 5 would be downhill yarded to the 30-3-23.1 road. Unit 6 would be cable yarded. (Units 4, 5, & 6 are in the Corn Creek sub-watershed).

Broadcast burning would be planned in Units 1, 2, 3, and the portion of Unit 4 above the 30-3-23.1 road, to increase plantability and reduce competition to seedlings by providing short term brush control. The area of Unit 4 below the 23.1 road less than 35% slope, and Unit 6, would be handpiled or spot burned. No site preparation using prescribed fire would be used in Unit 5.

Harvest units would be planted within one year of the completion of site preparation. The need for plantation protection, maintenance, and release, would be determined through survival surveys, in order to meet stocking standards.

Alternative 3

This alternative is the same as Alternative 2 with the exception of the following: approximately 4.6 million board feet (MMBF) would be harvested from 172 acres. No roads would be constructed. Unit 3 would require a helicopter landing (approximately 2 acres) which would be constructed at the road junction on the north boundary of the unit. Reference unit maps in Appendix A-5 thru A-7.

Unit 1 would be cable yarded below the road, and utilize either a ground based system with designated skid roads or helicopter to harvest above the 30-3-28.0 road. Unit 2 would be cable yarded. Unit 3 would be yarded with a helicopter. Unit 4 would be cable yarded below the road, and utilize either a ground based harvest system with designated skid roads or a helicopter above the 30-3-23.1 road. Unit 5 would be increased in size by 8 acres and helicopter yarded. Unit 6 would be cable yarded. The site preparation would also be the same as for Alternative 2. Table 1 (p. 6) summarizes the alternative.

Table 1
COMPARISON OF ALTERNATIVES

NOTE: All values are approximate.

ACTION	ALT #1	ALT #2	ALT #3
ACRES PER HARVEST METHOD:			
CABLE	0	133	75
HELICOPTER	0	0	78
GROUND-BASED	0	19	0
GROUND OR HELICOPTER	0	0	19
DOWNHILL CABLE	0	12	0
TOTAL	**0**	**164**	**172**
TIMBER VOLUME YIELD (MMBF)	0	4.430	4.590
TEMPORARY ROAD CONSTRUCTION (Miles) (would be decommissioned)	0	1.0	0
ROAD RENOVATION (Miles)	0	8	8
ACRES TO BE TREATED WITH PRESCRIBED BURNING:			
BROADCAST	0	134	134
HANDPILE OR SPOT BURN CONCENTRATIONS	0	18	18

Chapter 3
AFFECTED ENVIRONMENT

This chapter will summarize the site specific resources prior to project implementation, that could potentially be affected by the project.

I. WILDLIFE

An overview of the potential wildlife species in the area has been addressed in the PRMP/EIS (Vol. 1, p. 3-24 to 40).

A. SPECIAL STATUS SPECIES

Special Status Animals are identified in Table 3-19 of the PRMP/EIS (Vol. 1, p. 3-35).

Federally threatened species known to occur in the Roseburg District include the bald eagle, northern spotted owl, and marbled murrelet. The endangered species in the district include the American peregrine falcon, and Columbian white-tailed deer (CWTD). The project area is beyond the 50 mile inland range of the murrelet and the habitat range of the CWTD. Nesting habitat for the falcon does not exist in the project area. Portions of the project are located within one mile of the South Umpqua River and potential bald eagle habitat would be impacted. Inventories by Isaacs and Anthony of Oregon State University (1992-1994) do not list any bald eagle sites, nests or territories in nearby areas in the Days Creek to Melrose reach of the river (Isaacs and Anthony, 1995). Midwinter surveys also show no use by wintering populations of eagles.

The northern spotted owl is known to occur within the project area. The project area falls within the 1.2 mile (Cascade) provincial home range of two owl sites (Master site numbers 1809 and 1985A). These owl sites are located outside of critical habitat, and were established prior to January 1, 1994. The sites have designated 100 acre core areas. Both sites are below the 40% threshold of 1182 acres within their respective home ranges prior to the proposed action.

There are no known spotted owl sites within one mile of the Lavadoure Creek Community Pit. There is suitable habitat in the vicinity of the pit. If blasting is necessary for reclamation, a seasonal restriction would be applied.

The proposed project area is located within three quarter townships, two of which are below the 50% dispersal habitat level. Five adjacent quarters are at or above the 50% level. Dispersal habitat data for the four quarter townships which have been designated as the South Umpqua River/Galesville Late Successional Reserve (LSR), is unavailable.

II. SPECIAL STATUS PLANTS

The following list of Special Status Plants have been documented in the South Douglas Resource Area. These plants have been documented in habitat similar to the project area and have the potential to occur in the project area: Aster vialis, Cypripedium montanum, Dichelostemma-ida-maia, Astragalus umbraticus, Lupinus sulphureus var. kincaidii, and Pellaea andromedaefolia.

III. VEGETATION/TIMBER RESOURCES

Units 1 & 2 consist of primarily even aged, Douglas fir stands on predominantly southerly aspects. The closed canopy has nearly eliminated brush. Conifer regeneration and madrone is sparse. The down woody debris component is minimal. Unit 3 has an unevenly spaced Douglas fir overstory. There is a component of merchantable (>8" DBH) understory trees with scattered madrone and chinkapin. The brush species include evergreen huckleberry, salal and ocean spray. Units 4, 5, and 6 consist primarily of uneven aged Douglas fir with some scattered sugar pine. The brush species present are primarily salal and oceanspray. Portions of these units are void of brush.

IV. WATER RESOURCES/RIPARIAN/FISH

The proposed activity is outside of the Coastal Zone Management Area. There are registered water rights within one mile downstream of the proposed project area.

The watershed is located in the South Umpqua Basin. The South Umpqua Basin has been identified as being water quality limited based on water quality standards for dissolved oxygen, fecal bacteria, and pH being exceeded according to the 1994 Water Quality Assessment 305(b) Report (DEQ, 1994). Aesthetics, aquatic life, and water contact recreation are beneficial uses listed as "not supporting". A "not supporting" use is the most severe classification for water quality (DEQ, 1994).

ST. JOHN WATERSHED:
In the St. John Watershed, road density is 4.63 miles per square mile. There is a total of 80 miles of roads and trails as mapped in GIS on BLM and private land, collectively. On BLM, the road density is 3.3 miles per square mile with 1.5 stream crossings per stream mile.

The St. John Watershed consists of three sub-watersheds. The proposed project is in two of these sub-watersheds (John Days and St. John Creek). There are approximately 1949 acres in the John Days sub-watershed. Unit 1 has a registered, fenced spring development in the Riparian Reserve. The underground water line crosses a corner of the proposed unit. Unit 2 has no intermittent or perennial streams. Within the John Days sub-watershed, the existing roads have slides associated with them, which are adding sediment into the stream system (reference Soil Scientist report-EA file).

There are approximately 4797 acres in the St. John Creek sub-watershed, of which

approximately 2229 acres are in the TSZ and the road density is 4.4 miles per square mile. There are 2.1 stream crossings per stream mile on BLM land. The Hydrologic Recovery Procedure (HRP, Umpqua National Forest, 1990) indicated that for the entire sub-watershed (including private land), 13% is unrecovered and 27% is unrecovered on BLM lands only (reference Hydrology/Fisheries Report, p. 2, EA file).

Pfankuch Stream Reach Inventory and Channel Stability Evaluations (Pfankuch Surveys, 1975) were conducted by BLM in 1992 on the East fork of St. John Creek which noted a lack of cover, no availability of future large woody debris, and sediment filling some of the pools. In 1995, BLM noted fish present in the mainstem and East fork of St. John Creek.

There are also two culverts along the 30-3-34.1 road that have been identified as barriers to anadromous fish (reference map, Appendix A-4). There is approximately 4.0 miles of fish habitat available above these barriers which includes 1.5 miles of anadromous fish habitat.

The existing Lavadoure Creek Community Pit could supply approximately 20,000 cubic yards of rock for road surfacing. The quarry is immediately north of Lavadoure Creek and there is a tributary to the west.

COFFEE CREEK WATERSHED:
This watershed is divided into five sub-watersheds. The proposed activity is planned to take place in only the Corn Creek sub-watershed.

The Corn Creek sub-watershed has a total of 3599 acres with approximately 629 acres located within the TSZ. The HRP indicated that the entire sub-watershed is 11% unrecovered, and 7% unrecovered on BLM land. Slides along the existing roads and downcutting in the ditches are currently adding sediment into the stream system.

Pfankuch Surveys conducted by BLM in 1995 in Corn Creek, noted a lack of large woody debris, sediment filling pools, lack of shade along streambanks, and bank erosion. During the summer of 1995, BLM also conducted fish presence surveys in Corn Creek which indicated fish in the creek above the project area. The Oregon Department of Fish and Wildlife (ODFW) conducted an Aquatic Habitat Inventory on three stream reaches in Corn Creek in 1994. All reaches surveyed were rated as Fair (based on the Habitat Benchmark Rating System, 1994). The inventory indicated a high amount of sediment, lack of large woody debris, and lack of large conifers in the riparian zone. The BLM and ODFW surveys were conducted in the same sub-watersheds as the proposed project, and the conditions noted in the surveys, also exist in the streams within, and adjacent to the proposed units.

THREATENED AND ENDANGERED SPECIES:

1. **Federally Proposed Endangered Species**-The Umpqua basin cutthroat trout (Oncorhynchus clarki) have been "proposed" for listing by the National Marine Fisheries Service (NMFS) as an *endangered* species under the Endangered Species Act (ESA) of 1973, as amended. The coastal coho salmon (Oncorhynchus kisutch) have been "proposed" for listing by the NMFS as a *threatened* species under the ESA. If the cutthroat trout or coho salmon are listed and Alternative 2 or 3 is selected, it would be a "may affect" and the action would require consultation with

the NMFS.

2. **Other Sensitive Fish Species**-The Umpqua chub (Oregonichthys kalawatseti) is a Federal Candidate 2 (FC 2) species, with the *need for additional information* in order to propose this species for listing as *threatened* or *endangered* under the ESA (Oregon National Heritage Program, 1993). In the Markle study (1989), no chub were collected within the boundaries of the John Days Coffee Watershed Analysis Unit (JDCWAU). However, chub were sampled and collected at a site near Tiller in the mainstem of the South Umpqua (upstream of the JDCWAU) and some were collected from a site near Canyonville in the mainstem of the South Umpqua (downstream from the JDCWAU). These results suggest the existence of this species within the mainstem of the South Umpqua and the potential for these species to utilize the accessible lower gradient tributaries located within the JDCWAU.

V. SOILS

Units 1-3: are mapped as Galice Sedimentary Rocks unit (Jgs). Bedrock geology is comprised mainly of dark slaty siltstone and lesser amounts of interbedded graywacke sandstone and occasional lenses of conglomerate. Unit 1 is comprised mainly of slump-earth flow topography, but this would not create project-related soils concerns. Unit 3 has scattered areas of Igneous Rock (ig) which is granitic-textured rock ranging in composition from granite to diorite. On granodiorite parent material, soils exhibit granitic characteristics of high erodibility and low organic matter content. Slopes are dominantly steep (30-60%) and very steep (60-90%) with lesser areas of moderately steep (12-30%). The very steep segments of Unit 3 and Unit 2 (to a lesser extent) have translational/debris slide characteristics, but these would not create project-related soils concerns.

Unit 4: Same description as above, except granodiorite parent material is more common than in Unit 3. There are some areas of soil creep and small slump flows, but these would not create project-related soils concerns.

Unit 5: is comprised of ig and Jgs. The mapping unit description, indicates that approximately 20% of the soils in this unit are somewhat poorly drained or wetter, but with application of the proposed mitigation, these areas would not be of concern. There are some areas of soil creep and small slump flows, but these would not create project-related soils concerns.

Unit 6: is mapped as ig. Slopes are dominantly steep. Slump-earth flow topography would not create project-related soils concerns. The mapping unit description, indicates that approximately 20% of the soils are somewhat poorly drained or wetter, but with application of proposed mitigation these areas would not be of concern.

Existing Roads:
--30-3-21.0 and 28.0 roads (to Units 1 and 2) are rocked and are sufficient for harvest activities. The 28.0 road has existing cutbank and subgrade failures and sections of eroding ditchline and cutbanks are bare and eroding.

--30-3-22.0 and 34.1 roads (to Unit 3) are rocked and need standard road maintenance.
--30-3-23.0 and 23.5 roads (to Units 4, 5, and 6) are rocked and need more than standard road maintenance due to granitic soils. Cutbank slough and ditchline erosion are common.

VI. CULTURAL RESOURCES

There are no known cultural resources affected by this action. SHPO concurrence is pending.

Chapter 4
ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION

This chapter is the scientific and analytic basis for the alternative comparisons.

Alternative 1 - No Action

No regeneration harvest would be conducted in this area at this time, and would take place in another location to meet the District timber harvest commitment. Existing habitat conditions would be maintained for mature or old-growth species. There would be no anticipated impacts to potential populations of plant species other than by natural selection. The stands would continue to age with concurrent growth in diameter and height. Stand damage resulting in small natural openings would continue to occur as a result of minor disturbances such as wind, insects and disease. If very little growing space is released through disturbance, vigorous residual trees would soon occupy available space and prevent the establishment of new seedlings. Cumulative, small scale disturbances may create site conditions that are favorable for the regeneration of conifers, hardwoods and brush that would initiate a secondary canopy layer. Depending on available growing space, this new layer may soon become suppressed and remain on the forest floor stratum as advanced regeneration or may grow to become a major component of the overall stand (Oliver 1990). If major disturbance such as fire continues to be excluded, conditions over time could be conducive to a stand replacement fire.

No roads would be constructed. Roads identified as contributing to water quality problems would not be renovated, and culverts on St. John Creek would not be replaced at this time. The upstream resident and anadromous fish habitat would remain inaccessible to migrating fish, yet would continue to provide habitat for fish currently existing there. Soil surface erosion, slope stability and Riparian Reserves within harvest units, would not be affected beyond existing conditions. As a result of existing roads not being maintained, erosion and sediment yields would continue to increase. Natural revegetation will not be sufficient to mitigate these erosion processes. There would be no increase in peak flows in the JDCWAU, above current levels, from removal of timber or road building. The Lavadoure Creek Community Pit would not be reclaimed at this time.

Alternative 2

I. WILDLIFE

Habitat manipulation is the primary influence which impacts all animal species inhabiting or using the project area. The impacts which could be anticipated from timber harvest activities are discussed in the (PRMP/EIS, p. 4-36 to 47).

Road construction would impact wildlife by direct elimination of vegetation within the right-of-way. Indirect impacts to wildlife could also be anticipated due to increased human access (PRMP/EIS, p. 4-38 & 39). Road construction in the project area would be temporary, which would minimize disturbance to wildlife in the long term.

A. SPECIAL STATUS SPECIES

Many of the Special Status animals are known or suspected to occur in the project area although little or nothing is documented on their populations or degree of use in the project area. An overview of the impacts of timber harvest on the Special Status Species known to occur in the Roseburg District are discussed in the PRMP/EIS (p. 4-50 thru 4-66). Management direction for their habitats are given in the ROD/RMP (p. 41-43). Because the threatened marbled murrelet, endangered CWTD and peregrine falcon have not been found or are not expected to occur in the project area, impacts to these species are considered a "no affect".

The proposed project is considered a "no affect" on the bald eagle. Bald eagle occupation of the South Umpqua River basin has historically been low and there is no record of eagle nesting in the project area. Use appears to be limited to seasonal migrations. Although eagles are not expected to be found in the vicinity of the project, Unit 1 would be surveyed prior to harvest. If bald eagles are found, the nest site would be protected and seasonal restrictions applied to operations as directed in the ROD/RMP (p. 49).

The proposed harvest would remove 164 acres of suitable NSO habitat and would impact two spotted owl Master Sites. The harvest would occur within the 1.2 mile (Cascades) home range of each master site but outside of the 0.7 mile circle around each site center. The alternative would result in a determination of 'may affect - likely to adversely affect' for sites 1809 and 1985A because it would further reduce the suitable habitat within each provincial home range below the 40% threshold of 1182 acres.

If blasting occurs at the Lavadoure Creek Community Pit between March 1 and September 30, the habitat within one mile of the pit would need to be surveyed to determine NSO occupancy status. If unoccupied, the biologist has discretion to allow continued project implementation before September 30. No other consultation would be necessary if seasonal restrictions are applied.

Analysis of dispersal habitat in the project area and adjacent quarter townships resulted in a determination of "may affect - not likely to adversely affect" on dispersal habitat.

These impacts fall within the range described and analyzed by the PRMP/EIS.

This alternative would result in the reduction of the snag component of the stands in the project area. This would result in loss of foraging, roosting and nesting habitat, for woodpeckers, bats and other cavity-dependent species. Protection of snags, which are not a safety concern, should be emphasized in order to minimize the loss of this habitat. As a mitigation to replace snags lost during harvest, one to two additional large, green, conifers per acre should be added to the required 6-8 retention trees to provide for further snag recruitment in the short and long term. Retention tree placement to protect snags which are not a safety hazard, would minimize the loss of snags during project completion.

Although no suitable bat roost or hibernacula sites were located in the project area during field review, such sites, if found prior to or during the proposed activity, would be protected as directed in the ROD/RMP (p. 47-48).

II. SPECIAL STATUS PLANTS

Field surveys would be conducted during the blooming season, prior to harvest to verify occurrence. Special Status plant populations would be buffered to protect them from timber harvest and surface disturbance (PRMP/EIS Vol. I, p. 4-51).

III. VEGETATION/TIMBER RESOURCES

There should be no consequences beyond those analyzed in the PRMP/EIS (Vol. I, p. 4-75) if the following mitigations are applied during implementation: skid roads used for ground based yarding in Units 1 and 4 would compact less than 10 percent of each unit, and would be tilled with a winged sub-soiler after yarding to mitigate the direct impacts of soil compaction and to restore site productivity. To minimize the risk of fire entering the Riparian Reserves, directional felling away from reserves should be done in Units 1, 2, 3, and the portion of Unit 4 above the 30-3-23.1 road which are planned for low to moderate intensity broadcast burning. The broadcast burn would reduce the competition from brush in order to increase plantability, and reduce future fire hazard. Firetrails would be constructed around the Riparian Reserves to protect the vegetation from the planned prescribed fire. Downhill yarding in Unit 5 would result in more soils and vegetation disturbance than in Alternative 3, as well as the increased potential for damage to retention trees. Prescribed fire treatments would not be done on Unit 5 and those portions of Unit 4 below the 23.1 road that exceed 35% due to category 1 soils. Unit 6 and the portion of unit 4 below the 23.1 road less than 35% slope, would be hand piled or concentrations would be spot burned in order to minimize impacts to the soils.

IV. WATER RESOURCES/RIPARIAN/FISH

Skid roads for ground based harvest activities in Units 1 and 4 would be designated before

falling to meet the objective of decreasing sedimentation and maintaining site productivity by potentially reducing the number of necessary skid roads. Consequently, there should be no significant impacts to hydrology from the use of ground based harvest activities. There would also be no direct or indirect impacts to hydrology associated with Units 2 and 6. To protect the spring development in Unit 1, the spring and the channel downstream of the spring would be included within a Riparian Reserve. A portion of the waterline would be outside of the Riparian Reserve and may need additional protection (i.e. clumping retention trees around waterline) or to be repaired if damaged during harvest operations.

The potential for indirect detrimental impacts of increased sedimentation and alteration of the hydrologic flow associated with the road building in Unit 3 and the downhill yarding of Unit 5, would retard or prevent attainment of the ACS objective of maintaining and restoring the sediment regime under which an aquatic ecosystem developed (PRMP/EIS, Vol. 1, p. 2-4).

The culverts to be replaced along the 30-3-34.1 road would be designed to accommodate the 100 year flood event. There would be short-term detrimental direct impacts to St. John Creek associated with the removal of the old culverts. These short-term impacts would be mitigated through use of the BMP and should be outweighed by the long-term beneficial impacts associated with opening up approximately 1.5 miles of habitat to anadromous salmonids. The culvert replacement would occur during low flows so as to minimize disturbance to the fisheries resource.

The project acres are less than one percent of the total TSZ acres in the two sub-watersheds (St. John Creek and Corn Creek) and are located within the lower elevational range of the TSZ. Consequently, the project should not result in significant cumulative impacts associated with increased peak flows during warm rain-on-snow events (reference Hydrology/Fisheries Report, p. 5, EA file).

The Riparian Reserves would protect the morphology of the stream channels adjacent to harvest units, prevent increases in stream temperature, filter sediment from adjacent harvest units, and provide a source of large woody debris (LWD) to the streams. Draws and ephemeral streams that did not show a definable channel or evidence of annual scour and deposition, and therefore did not require a Riparian Reserve, would also be protected by the placement of retention trees. With the protection provided from the Riparian Reserves and the use of the BMP, downstream water users should not be impacted.

Reclamation of the Lavadoure Creek Community Pit could have a short term impact to the fisheries resource in the lower reaches of Lavadoure Creek due to sedimentation from quarry activities, and lack of vegetation prior to rehabilitation. The BMP (ROD/RMP, Appendix D, p. 129-144) would be applied to mitigate potential impacts from sedimentation in the future. By utilizing the remaining rock in this quarry for this sale, and rehabilitating the area, quarry disturbance in another sub-watershed would be avoided.

V. SOILS

Slope stability concerns due to harvest activities are low to moderate. The one-mile of proposed temporary road construction into Unit 3 has a high probability of not meeting the road planning and location objectives in the RMP. The intent of these objectives is to minimize resource damage, mass soil movement, erosion and sedimentation (ROD/RMP, Appendix D, p. 131 and 132, A and B). Steep slopes and stability conditions make road construction a high risk. The probability of slope failure is high and the cost of construction and maintenance would be higher than average.

The PRMP/EIS states that "maintaining or enhancing water quality and long-term soil/site productivity will be inherent in all timber harvest and production practices" (PRMP/EIS, Vol. I, p. 2-47). Downhill yarding proposed for Unit 5 would cause surface disturbance and compaction that would not meet the RMP yarding method objective (ROD/RMP, Appendix D, p. 130, C). The intent of this objective is to minimize soil productivity loss and reduce potential for surface runoff and subsequent degradation due to surface disturbance or compaction. This intent would be difficult to meet by downhill yarding because partial and/or full suspension is not practical.

Using the project design features of tillage, fall to lead, and predesignated skid trails, all ground based harvest activities will be mitigated to keep productivity losses to less than 1 percent.

Clump retention trees in, and suspend over or yard away from: draws, headwalls, depressions, drainageways and unstable areas that do not qualify for Riparian Reserves. This would reduce impacts to soils in these areas.

Alternative 3-Preferred Alternative

I. WILDLIFE

Impacts are the same as discussed above in Alternative 2.

A. SPECIAL STATUS SPECIES

All impacts to Special Status Species are the same as for Alternative 2 with the exception of the following differences regarding impacts to the NSO suitable and dispersal habitat. This alternative would remove 172 acres of suitable NSO habitat which would impact the same two spotted owl Master Sites.

Dispersal habitat in the NE quarter township of T30S, R3W would be reduced by 58 acres, dropping from 63% to 61%. The SE quarter would be reduced by 47 acres, from 48% to 42%. The SW quarter would be reduced by 67 acres, from 43% to 37%. Adjacent quarter townships are above the 50% level or are in the LSR, resulting in a determination of 'may affect - not likely to adversely affect' on dispersal habitat.

The impacts on the NSO sites fall within the range described and analyzed by the PRMP/EIS, and are not considered significant issues.

II. SPECIAL STATUS PLANTS

Same as for Alternative 2.

III. VEGETATION/TIMBER RESOURCES

The consequences would be the same as Alternative 2 with the following exceptions: helicopter yarding of Units 3 and 5 would eliminate the one mile of temporary road and the associated loss of approximately 2 acres from timber production. Helicopter yarding would result in less damage to residual and retention trees. Less soils and vegetation disturbance would occur. There would be reduced scarification of brush.

IV. WATER RESOURCES/RIPARIAN/FISH

The consequences would be the same as Alternative 2 with the following exceptions: there would be no road built into Unit 3 and helicopter harvest would occur in Units 3 and 5, which eliminates the concerns of increased sedimentation and alteration of the hydrologic flow regime. Approximately 8 acres to be helicopter harvested would be added to Unit 5. Impacts there would be the same as those analyzed for the 12 acres of Unit 5 in Alternative 2.

By applying the standards and guides outlined in Alternative 9 of the Final SEIS and the BMP for road construction and timber harvest (ROD/RMP 1995), the ACS objectives should not be compromised by the proposed land management activities and the fisheries resource would be protected.

The impacts discussed above for fisheries and water resources have been analyzed in the PRMP (Vol. I, p. 4) and as such are not considered significant.

V. SOILS

The consequences would be the same as Alternative 2 with the following exceptions: helicopter harvest proposed in Units 1, 3 and 4 and not building road into Unit 3, would mitigate adverse impacts to water quality/quantity and soil productivity (ROD/DRMP, p. 130, I.A.6) by reducing soil displacement and compaction. This would result in beneficial impacts of reduced; surface erosion, sedimentation and site productivity loss as compared to cable or ground-based systems. Thus, the magnitude of the effects would be less environmentally impacting than those for Alternative 2. The impacts would be within those already analyzed in the PRMP/EIS.

Cumulative Impacts of the Proposed Action

The consideration of cumulative impacts from harvest and road construction are within those analyzed in the PRMP/EIS (Vol. I, Ch. 4-7 to 4-100).

There are other BLM harvest activities (approximately 700 acres) planned in the JDCWAU in the reasonably foreseeable future.

Monitoring

Monitoring would be done in accordance with the ROD/RMP, Appendix I (p. 84, 190-191, & 195-198).

Chapter 5
LIST OF PREPARERS

Name	Title	Resource or Discipline	Signature	Date
Sigrid Barron	Environmental Coordinator	ID Team Leader		6/12/96
Bill Adams	Forester	Silviculture & Fuels Mgmt.		6/10/96
Todd Kuck	Forester/ Hydrologist	Hydrology		6-11-96
Melanie Roan	Wildlife Biologist	Wildlife/T & E Species		6/7/96
Dennis Hutchison	Soils Scientist	Soils		6/7/96
Rob Hurt	Fisheries Biologist	Fisheries		6/10/96
Gary Basham	Special Status Plant Coordinator	Special Status Plants		6/12/96
Isaac Barner	District Archeologist	Cultural Resources		6/7/96
Jay Besson	Plans Forester	Planning		6/7/96
Dave Mathweg	Outdoor Recreation Planner	Recreation Planning & VRM		6-7-96
Eric Heenan	CET/Mining	Community Pit		6/7/96

Analysis Compiled By: 6/12/96

Sigrid Barron — Date
Environmental Coordinator

Chapter 6
LIST OF AGENCIES AND PERSONS CONTACTED

This project was included in the Roseburg BLM Project Planning Update (Spring 1996).

1. Agencies & Persons Contacted:

Adjacent Landowners & Down-stream Water Users (reference list in EA file)
* Cow Creek Band of Umpqua Tribe of Indians
Huffman & Wright Logging Company
Lone Rock Timber Company
National Marine Fisheries Service
Oregon Department of Fish and Wildlife
Roseburg Resources Company
Silver Butte Timber Company
Umpqua Watersheds
US Fish and Wildlife Service

* Isaac Barner, District Archaeologist, deemed that the Confederated Tribes of the Siletz and Grande Ronde would not be impacted by this project, and thus were not contacted through Form OR 8100-1 as indicated on the Public Involvement Strategy for the project (dated 2/26/96).

2. The following agencies, organizations, and individuals would be notified of the completion of the EA/FONSI:

Division of State Lands
Douglas County Board of Commissioners
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Department of Forestry
Oregon Land Conservation & Development
US Environmental Protection Agency
US Fish and Wildlife Service
Umpqua Regional Council of Governments
Ronald S. Yockim

A notice of decision would be published in the News Review if the decision is made to implement the project.

GLOSSARY

Critical Habitat — (Under the Endangered Species Act) the specific areas within the geographic area occupied by a federally listed species on which are found physical and biological features essential to the conservation of the species, and that may require special management considerations or protection (RMP/EIS, Vol. 1, Glossary-3).

DBH — diameter at breast height (4.5' above the ground).

Dispersal Habitat — on a quarter township basis, 50 percent of the stands would have conifers averaging 11 inches diameter at breast height and a 40 percent canopy closure.

From the Recovery Plan for the Northern Spotted Owl (April 1992) habitat that supports the life needs of an individual animal during dispersal*. Generally satisfies needs for foraging, roosting, and protection from predators.

*Dispersal-the movement, usually one way and on any time scale, of plants or animals from their point of origin to another location where they subsequently produce offspring.

Dispersal habitat should remain above fifty percent on federal lands within any given quarter township to avoid "incidental take" of a NSO.

Hydrologic Recovery Procedure — a procedure developed on the Umpqua National Forest (1990) for estimating cumulative effects in the TSZ. According to the HRP, if more than 25% of the subwatershed has been harvested and is unrecovered, there is a potential cumulative effect of harvest increasing peak flows.

Road Closure Methods — Decommission-decommissioned roads will be based on resource protection needs identified in watershed analysis and the RMP directives. The road segment is to be closed to vehicles on a long term basis. The road will be left in an "erosion-resistant" condition by establishing cross drains or removing fills in stream channels. The road will be closed with a device similar to an earthen (tank trap) barrier or equivalent. The road should not require future maintenance.

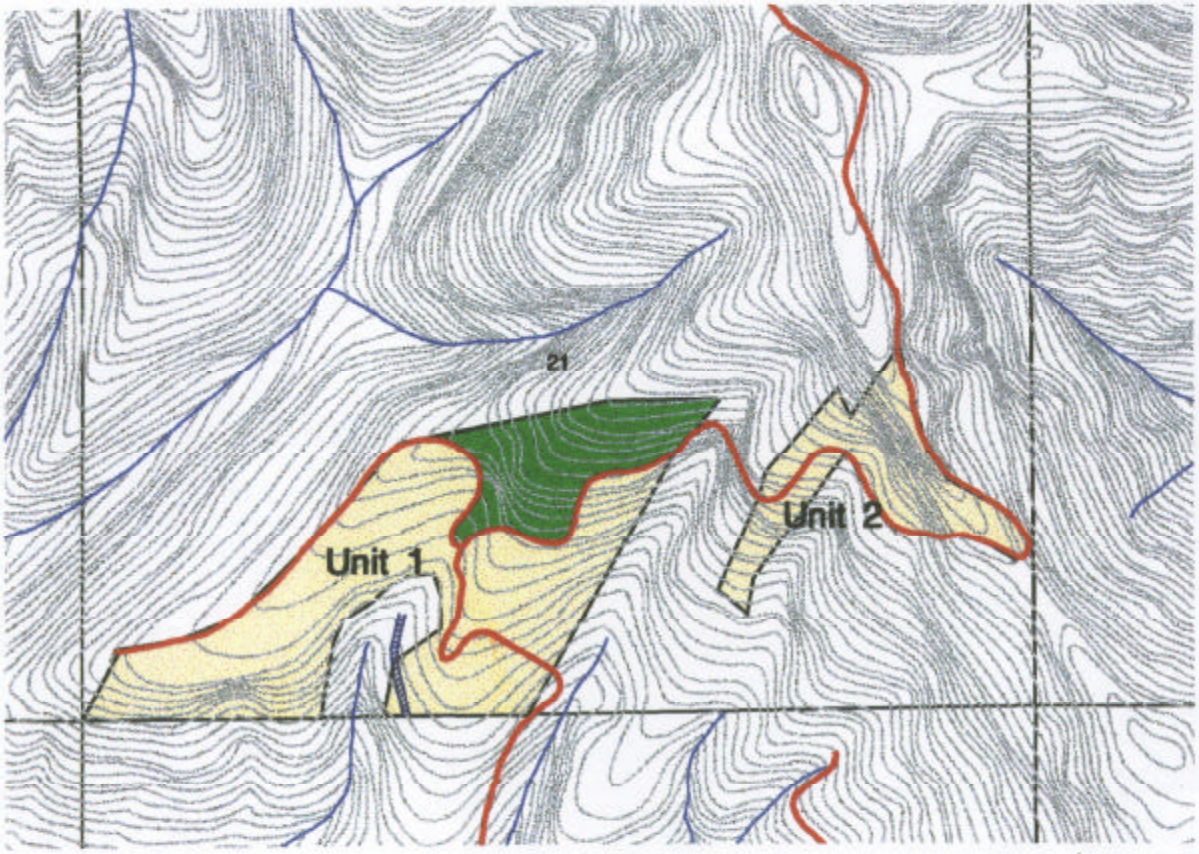
Full Decommission-roads determined through an interdisciplinary process to have no future need will be ripped (tilled), seeded, mulched, and planted to reestablish vegetation. Cross drains and fills in stream channels will be removed to restore natural hydrologic flow. The road will be closed with a device similar to an earthen (tank trap) barrier or equivalent. The road will not require future maintenance. Roads receiving this treatment will be removed from all inventories.

Suitable Habitat — in the Recovery Plan (1992), an area of forest vegetation with the age-class, species of trees, structure, sufficient area, and adequate food source to meet some or all of the life needs of the northern spotted owl.

APPENDIX A

MAPS

Kernel John Alternative 2

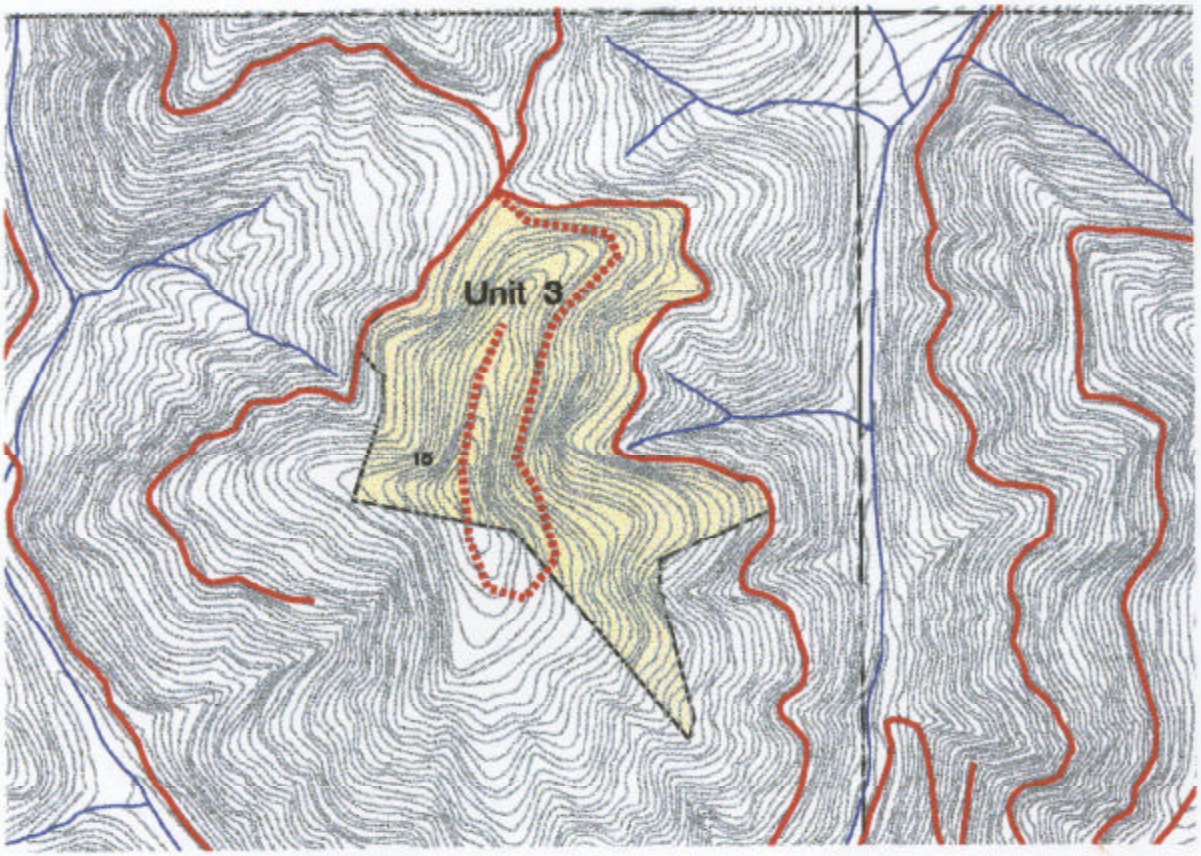


1000 0 1000 2000 Feet

Waterline
Existing Roads
Streams
Contours
Ground Based Yarding
Cable Yarding
Section Lines

N

Kernel John Alternative 2



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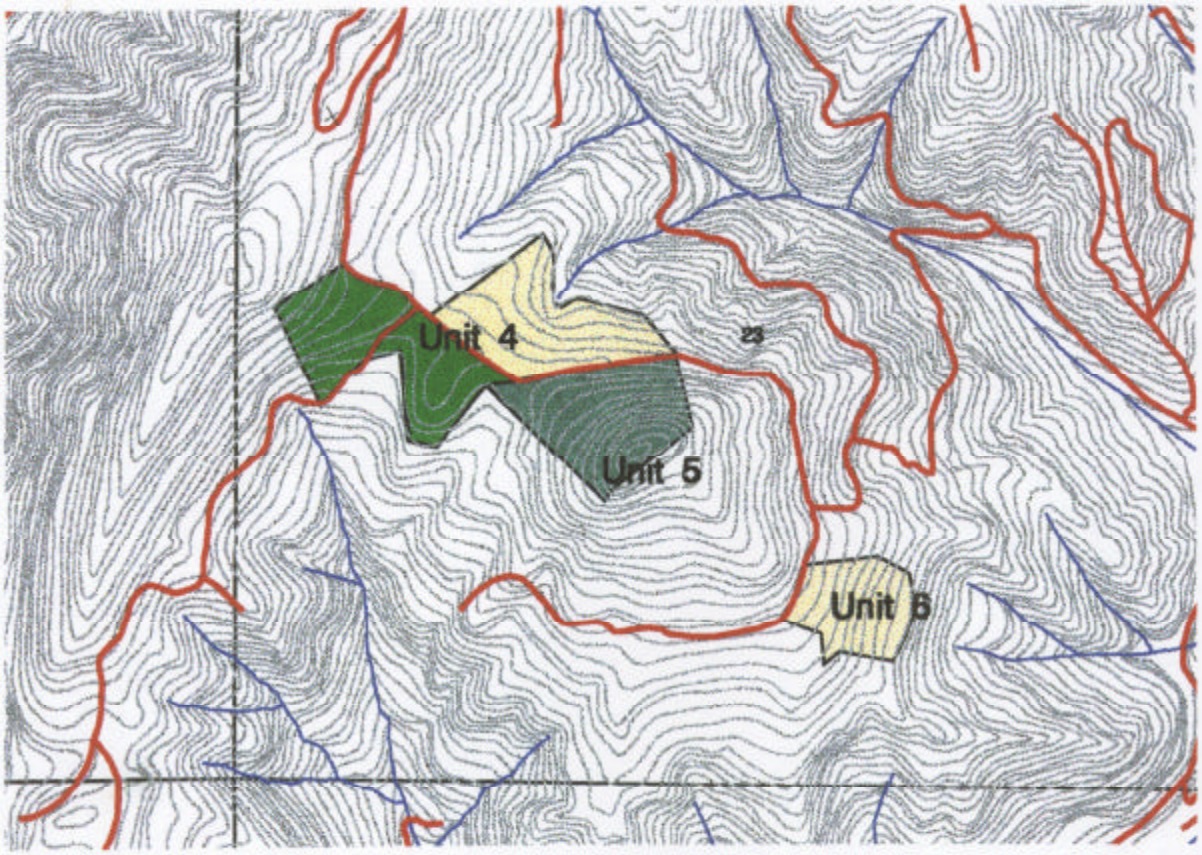
Existing Roads
Streams
Road to be Constructed
Contours
Cable Yarding
Section Lines

N

Kernel John Alternative 2



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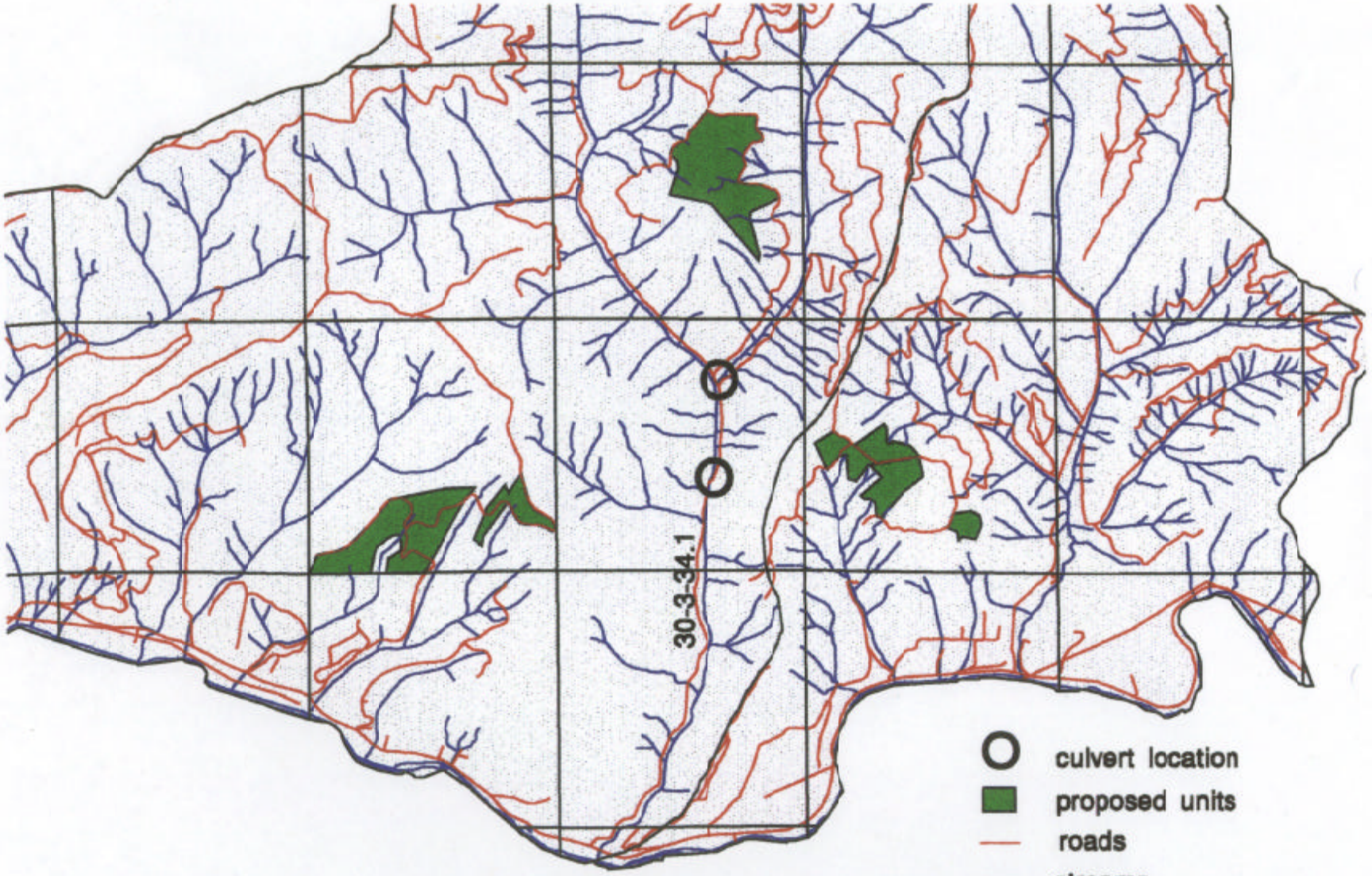
Existing Roads
Streams
Contours
Ground Based Yarding
Downhill Yarding
Cable Yarding
Section Lines

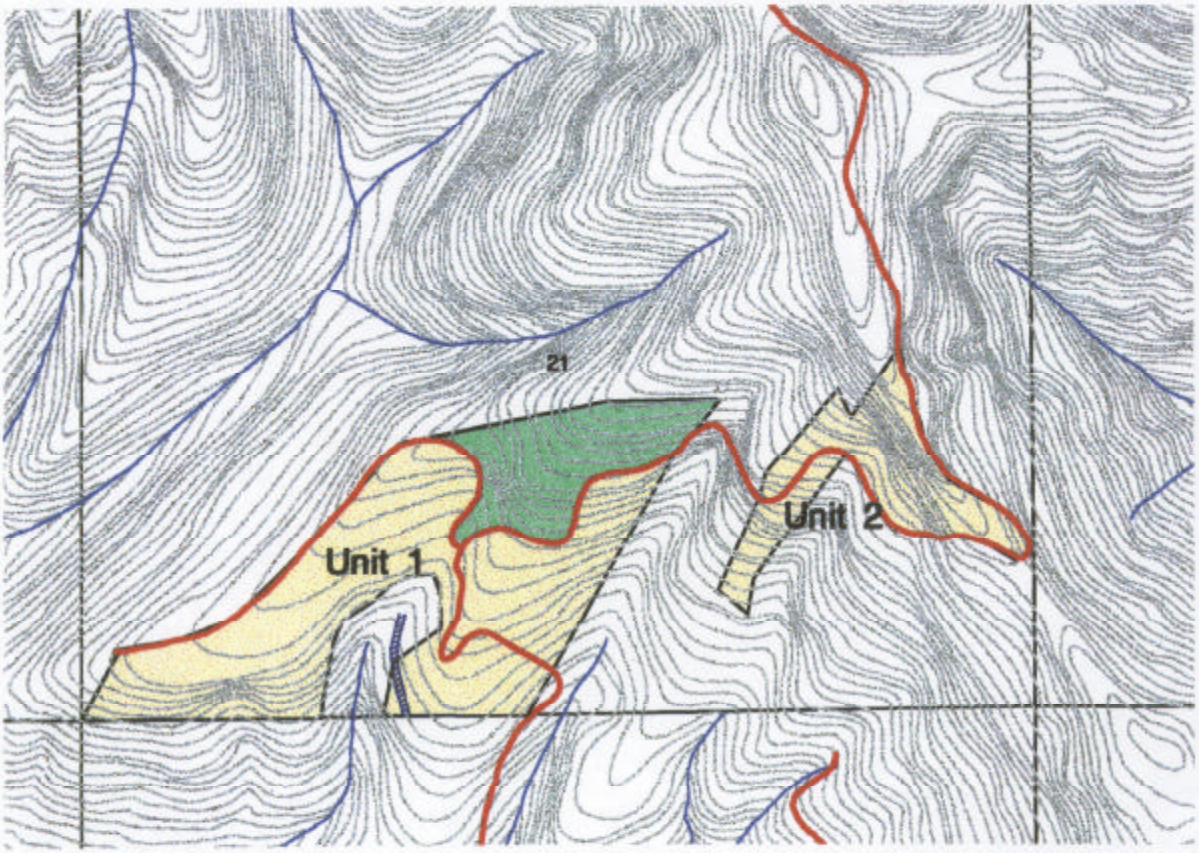
N



T30S-R3W

Culvert Location

Kernel John Alternative 3

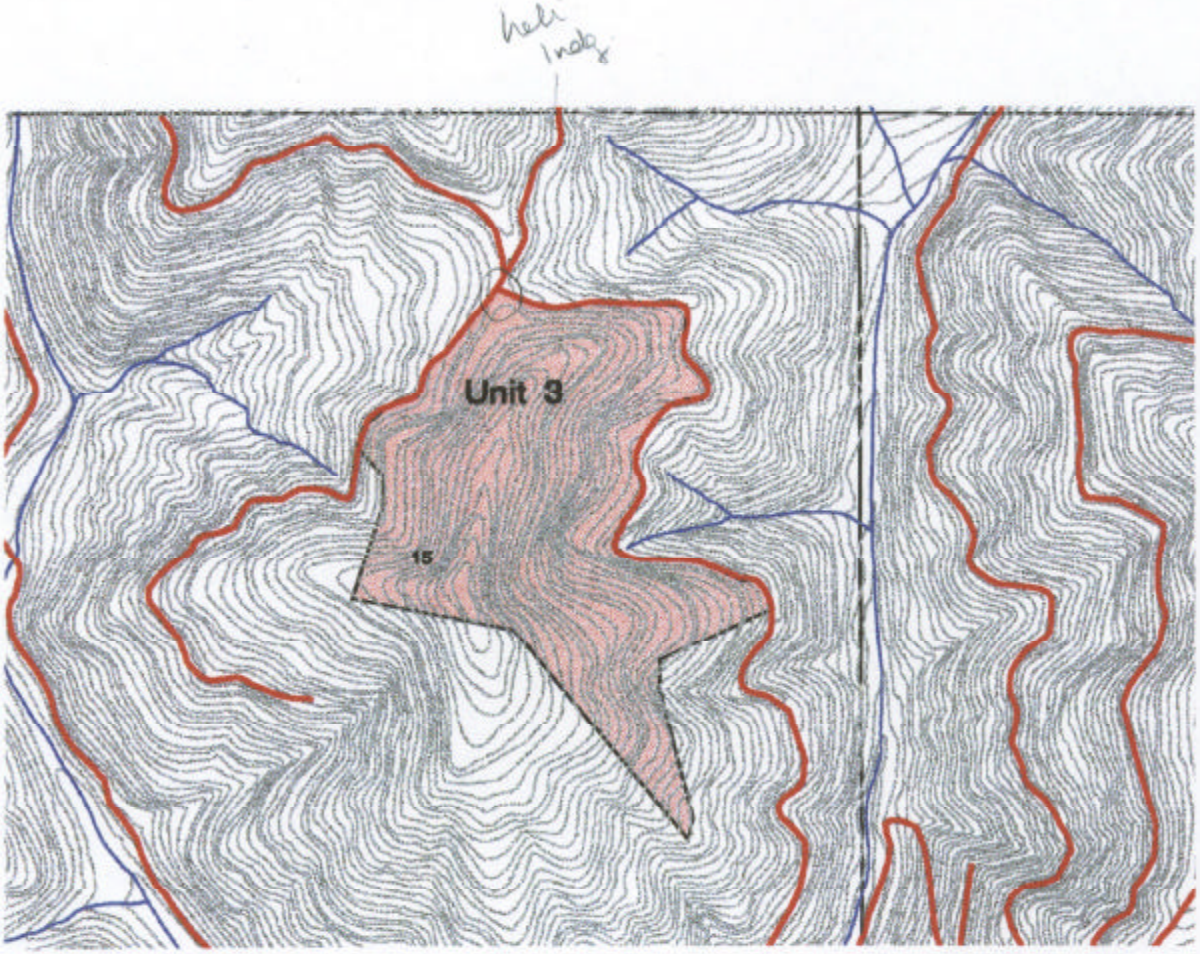


1000 0 1000 2000 Feet

Waterline
Existing Roads
Streams
Contours
Ground Based or Heilcopter Yarding
Cable Yarding
Section Lines

N

Kernel John Alternative 3

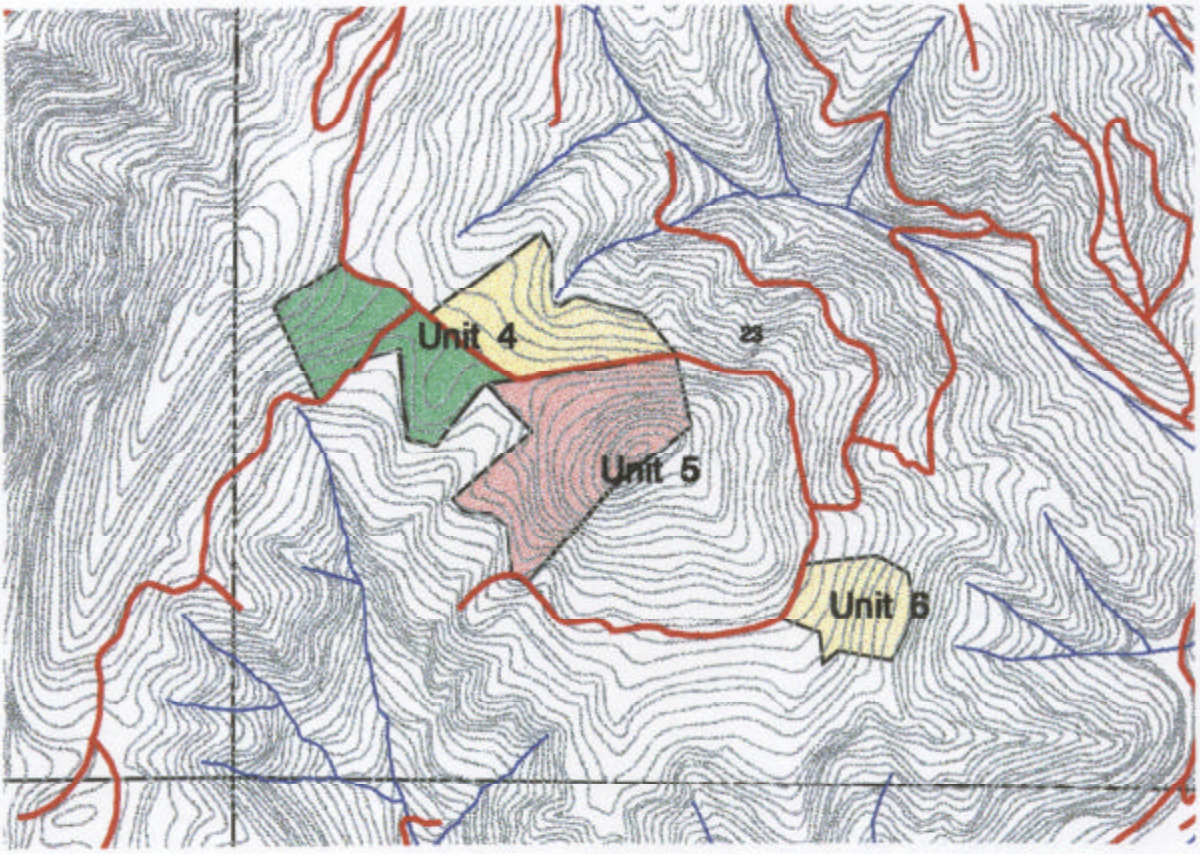


1000 0 1000 2000 Feet

Existing Roads
Streams
Contours
Helicopter Yarding
Section Lines

N

Kernel John Alternative 3



1000 0 1000 2000 Feet

Existing Roads
Streams
Contours
Helicopter Yarding
Ground Based or Heilcopter Yarding
Cable Yarding
Section Lines

N

APPENDIX B

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order.

These resources or values are either **not present** or **would not be affected by the proposed actions or alternative,** unless otherwise described in this EA. This negative declaration is documented below by individuals who assisted in the preparation of this analysis.

ELEMENT	NOT PRESENT	NOT AFFECTED	IN TEXT	INITIALS	TITLE
Air Quality			✓	WJA	Fuels Management Spec.
Areas of Critical Environmental Concern	✓			JSB	Plans Forester
Cultural Resources	✓			~~JSB~~	~~District Archaeologist~~
Farm Lands (prime or unique)	✓			DEH	SOIL SCIENTIST
Floodplains	✓			DEH	SOIL SCIENTIST
Native American Religious Concerns		✓		JSB	Plans Forester
Threatened or Endangered Wildlife Species			✓ ✓	MR. RH	Wildlife Biologist FISHERIES BIOLOGIST
Threatened or Endangered Plant Species		✓	✓	RB	Natural Resource Specialist
Wastes, Hazardous or Solid			✓	SRW	Hazmat Coord.
Water Quality Drinking/Ground			✓	TK	HYDROLOGY
Wetlands/Riparian Zones		✓		~~TK~~ DEH	HYDROLOGY SOIL SCIENTIST
Wild & Scenic Rivers	X			BS	Env. Coord
Wilderness	X			BS	"
Visual Resource Management		✓	✓	DAM	Outdoor Rec. Planner
Pacific Yew			✓	WJA	Fuels Mgmt Specialist